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AERIAL ICE RECONNAISSANCE AND SATELLITE ICE INFORMATION MICROFI--ETC(U)
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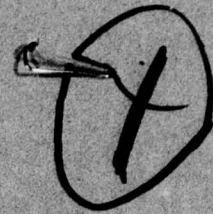
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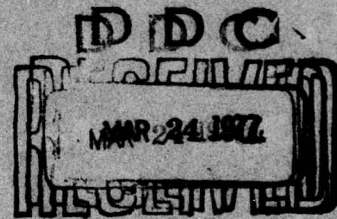
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**AERIAL ICE RECONNAISSANCE
AND SATELLITE ICE INFORMATION
MICROFILM FILE**

AUGUST 1976



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Abstract

The Aerial Ice Reconnaissance and Satellite Ice Information Microfilm File of the Naval Oceanographic Office contains 35-mm microfilm copies of ice information gathered subsequent to 1969 in the Antarctic and 1971 in the Arctic during U.S. Navy, U.S. Coast Guard, and Danish polar operations, and from visual, infrared, and microwave satellite imagery. This file, which consists of all unclassified chart analyses of aerial ice reconnaissance and satellite ice information compiled by Fleet Weather Facility, Suitland, Maryland, was established in 1975 to preserve ice data after the termination of the Oceanographic Office annual reports of the arctic and antarctic ice observing and forecasting programs. Listings of available microfilm through calendar year 1975 for the eastern Arctic, western Arctic, and the Antarctic, along with procedures for ordering copies, are given.

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**AERIAL ICE RECONNAISSANCE
AND SATELLITE ICE INFORMATION
MICROFILM FILE**

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PETER A. MITCHELL

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WASHINGTON, D. C. 20373

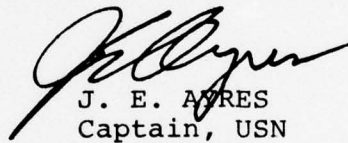
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FOREWORD

Interest in the polar regions has increased manyfold in recent years principally due to the newly developing economic incentives and revived military significance of the Arctic and the continuing scientific research in the Antarctic. Improvement and further development of operational sea ice forecasting techniques that allow our naval forces to operate safely in these areas depend heavily upon the maintenance of historical ice data files.

The Aerial Ice Reconnaissance and Satellite Ice Information Microfilm File effectively substitutes for the terminated Oceanographic Office annual reports of the arctic and antarctic ice observing and forecasting programs. This publication provides the researcher with listings of available microfilm in one of the Navy's more extensive ice data files and describes the procedures to follow to obtain copies of the original chart analyses of aerial ice reconnaissance and satellite ice data.


J. E. AYRES
Captain, USN
Commander

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INTRODUCTION

Realistic and proven dynamic sea ice forecasting models for polar regions using easily measurable and routinely reportable meteorological and oceanographic parameters in the polar regions are still to be developed. Until they are, the operational sea ice forecaster must rely heavily upon statistical and/or analog forecasting methods based on historical ice data. These data also serve as an invaluable aid to the researcher when attempting to correlate measured meteorological and oceanographic parameters to the observed growth, decay, and movement of sea ice.

The principal source of unclassified, historical synoptic ice data gathered during U.S. Navy, U.S. Coast Guard, and Danish polar operations and made available to the Naval Oceanographic Office (NAVOCEANO) has been the annual reports of both the Arctic and Antarctic ice observing and forecasting programs (Naval Oceanographic Office, 1953-1974). These NAVOCEANO publications provide in chart form ice conditions observed by aerial reconnaissance and interpreted from satellite imagery for the eastern and western sectors of the North American Arctic and in selected portions of the seas surrounding the Antarctic Continent. These series terminated with the 1969 and 1971 annual reports for the Antarctic and Arctic, respectively. The Arctic annual report series actually consists of 20 issues covering the time period from 1952 through 1971, and the Antarctic series consists of 8 issues detailing sea ice data from 1962 through 1969. Many of these reports are no longer in print; therefore, complete sets are not available.

In order to preserve the ice data gathered subsequent to 1969 in the Antarctic and 1971 in the Arctic, a microfilm file of all unclassified chart analyses of aerial ice reconnaissance and satellite ice information compiled by the Ice Department of Fleet Weather Facility, Suitland, Maryland has been established within the Fleet Applications Department (Code 3700) of NAVOCEANO.

AERIAL ICE RECONNAISSANCE AND SATELLITE ICE CHARTS

The satellite ice analyses charts included in the microfilm file present a comprehensive picture of the ice conditions on a weekly basis for the eastern (east of 90°W and west of 90°E) and western (west of 90°W and east of 90°E) Arctic and the entire Antarctic region. Most of the ice information presented on these charts was compiled utilizing imagery from microwave radiometers and the visual and infrared imagery from the Scanning Radiometer (SR) and Very High Resolution Radiometer (VHRR) sensors on board earth-orbiting satellites. Ice condition information from ship and shore reports and from aerial reconnaissance was also included when available. Examples of satellite ice charts for the eastern and western Arctic regions and for the Antarctic are shown in figures 1, 2, and 3, respectively.

The chart analyses of aerial ice reconnaissance have limited areal extent and will generally be found to be scattered over both time and space for a specific geographical area, due to the nature of such reconnaissance. The majority of data gathered by aerial ice reconnaissance flown by U.S. Navy and Coast Guard personnel is disseminated through the use of a detailed ice-reporting code. A breakdown of the code and a key to the ice symbols that are plotted on most of the aerial ice reconnaissance charts are presented in figure 4. A more complete and definitive breakdown of the ice-reporting code will be found in the Ice Observers Manual, NAVOCEANO Technical Note 3700-49-76. An example of a chart analysis of aerial ice reconnaissance utilizing the terminology and symbols listed in figure 4 is shown in figure 5.

Frequently, ice conditions reported by other nations, such as Denmark, will not be in the same format as that used by U.S. observers. A plain-language format generally will be used in these instances to report observed ice conditions by message. However, personnel of Fleet Weather Facility, Suitland attempt to incorporate as much as possible of the terminology and ice symbols shown in figure 4 into their chart analyses when plain-language ice reports are received. An example of a chart analysis of a plain-language Danish aerial ice reconnaissance message is shown in figure 6.

MICROFILM ICE FILE

At present, the NAVOCEANO microfilm ice file consists solely of 35-mm microfilm copies of Fleet Weather Facility, Suitland chart analyses on aperture cards; a sample of which is shown in figure 7. This file is updated on a quarterly basis. All interested commands and agencies may view this file at NAVOCEANO; or copies of the microfilm, either in an 18- by 24-inch, electrostatic paper copy format or as duplicate 35-mm, diazo aperture cards, will be made available at cost. The microfilm listing presented in this report includes all sea ice data on microfilm available from NAVOCEANO through the end of calendar year 1975. Starting in 1977, this listing will be updated at the start of each new calendar year, adding ice information available for the preceding year. For example, the 1977 supplement will list all available microfilm through the end of calendar year 1976.

Parties desiring copies of the annual reports of the Arctic or Antarctic ice observing and forecasting programs should contact the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, which will provide microfiche copies.

PROCEDURE TO OBTAIN MICROFILM

Requests for duplicate copies of microfilm should be sent to Commander, Naval Oceanographic Office, Washington, D.C. 20373*

*COMNAVOCEANO, NSTL, Bay St. Louis, MS 39520 after 1 July 1978.

specifying the areas, time periods, and copy format desired. The file will then be searched, and a listing of all microfilm available for the regions and dates specified along with reproduction costs will be sent to the requester. NAVOCEANO, upon receipt of payment, will order reproduction of the microfilm from another agency and forward the copies to the requesting agency or individual as quickly as possible. Requesters should allow from 4 to 6 weeks for delivery after payment is made.

MICROFILM LISTING

The available microfilm is listed according to three geographical areas: eastern Arctic, western Arctic, and Antarctica (tables 1, 2, and 3). Other pertinent information included in the listing is as follows: (1) type of data (aerial reconnaissance (RECCO) or satellite interpretation (SAT)); (2) date of mission, in the case of aerial reconnaissance, or date of issuance of the satellite ice chart, which in most cases details ice conditions for the preceding week or portion thereof; (3) nation that flew the aerial reconnaissance; and (4) the number of microfilm images needed to present the entire chart analyses of the aerial reconnaissance mission. A single satellite ice chart for each geographical area is contained on one image.

REFERENCES

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- U.S. Naval Oceanographic Office, Antarctic ice observations October 1963 - January 1964, Spec. Pub. SP-80 (63), 26 pp., Washington, D.C., 1965.
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- U.S. Navy Hydrographic Office, Report of the ice observing and forecasting program-1958, Tech. Report TR-66, 148 pp., Washington, D.C., 1959.
- U.S. Navy Hydrographic Office, Report of the ice observing and forecasting program-1959, Tech. Report TR-69, 121 pp., Washington, D.C., 1961.
- U.S. Naval Oceanographic Office, Ice observers manual, Tech. Note 3700-49-76, (In preparation).

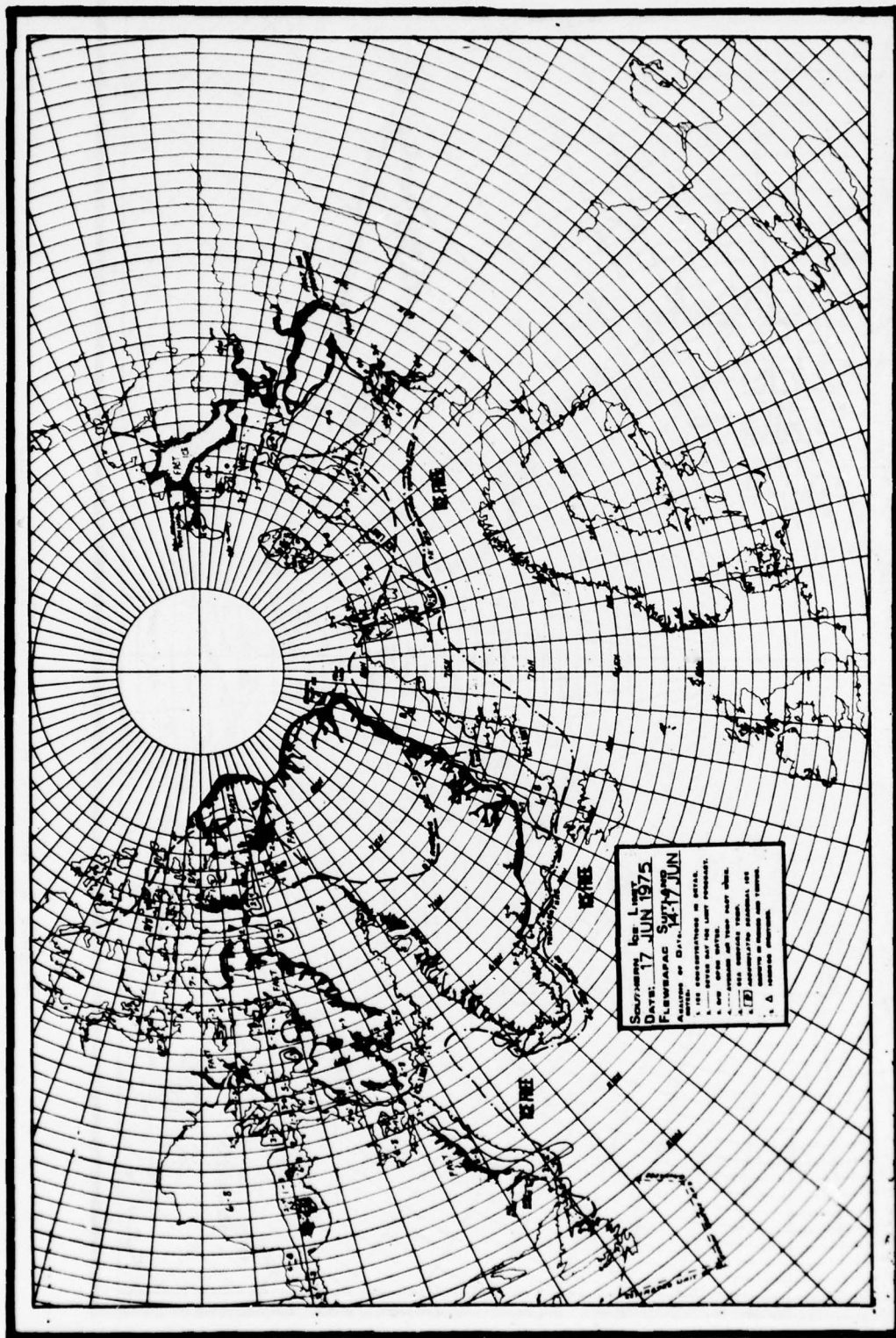
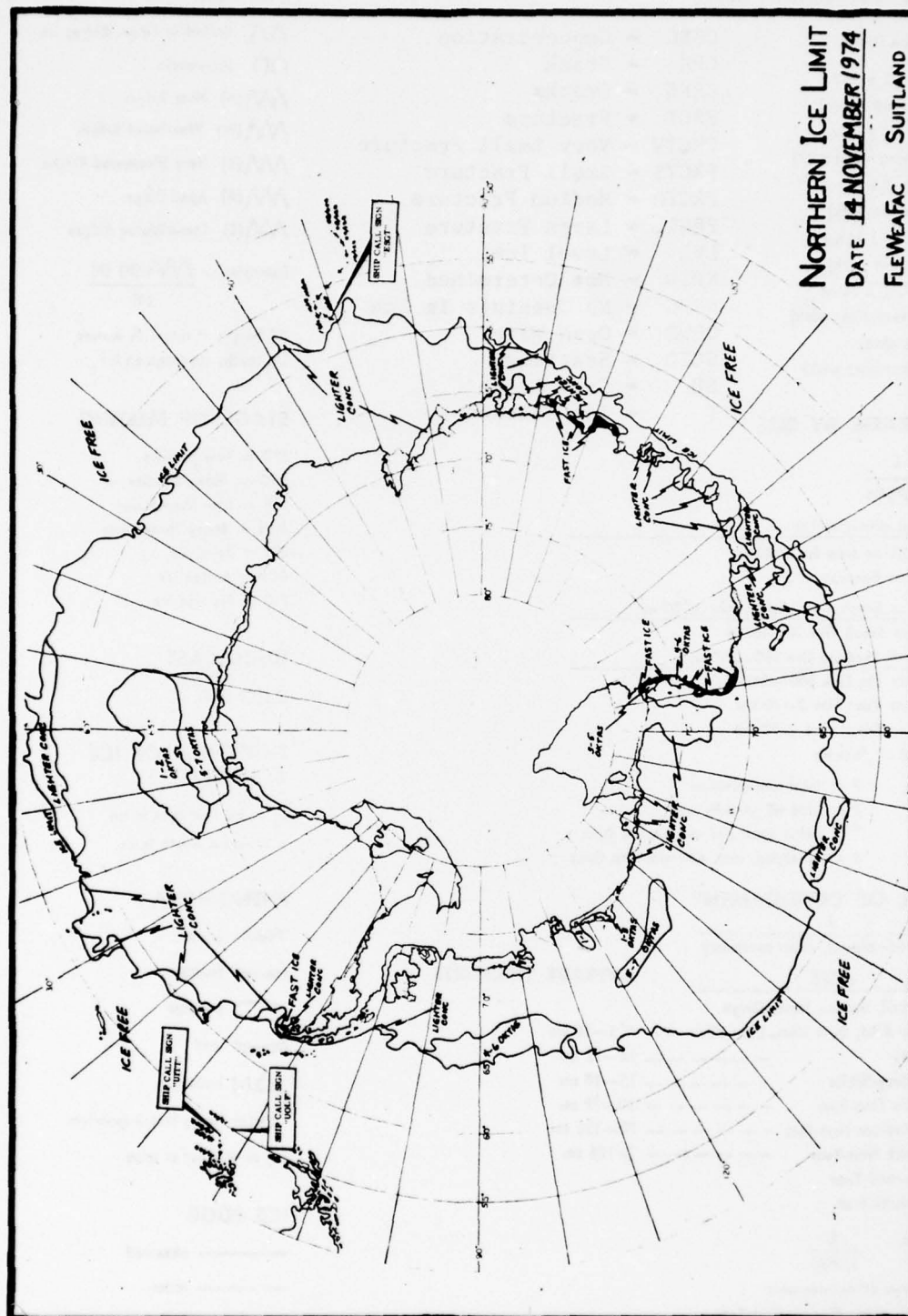









Figure 1. Eastern Arctic satellite ice chart



KEY TO ICE SYMBOLS USED IN PLOTTING ICE FEATURES

TOTAL CONCENTRATION

	Ice free	CONC	= Concentration
	<1 okta* (open water)	CRK	= Crack
	1-<3 oktas (very open pack)	CRKS	= Cracks
	3-<6 oktas (open pack)	FRCT	= Fracture
	6-<7 oktas (close pack)	FRCTV	= Very Small Fracture
	7-<8 oktas (very close pack)	FRCTS	= Small Fracture
	8 oktas (compact pack)	FRCTM	= Medium Fracture
		FRCTL	= Large Fracture
		LVL	= Level Ice
		NDTR	= Not Determined
		NOPG	= No Openings in Ice
		OPWR	= Open Water
		SCTD	= Scattered
		SD	= Snow Depth
		T	= Ice Thickness








COVERAGE BY SIZE

$C = \frac{1}{\frac{1}{n_1} + \frac{1}{n_2} + \frac{1}{n_3}}$	
C = total concentration	
SS/NL	= New Ice or Nilas
n ₁ PK	= Pancake <3 m
CK	= Brash, Small Cake, Cake <20 m
SF	= Small Floe 20-100 m
n ₂ MF	= Medium Floe 100-500 m
BF	= Big Floe 500-2000 m
VF	= Vast Floe 2-10 km
n ₃ GF	= Giant Floe >10 km
Fast	= Fast Ice
Example: $\frac{7}{124} \text{ PK}$	
7	= total concentration
1	= okta all pancake ice
124	= oktas small and medium ice floes
PK	= oktas big, vast, and giant ice floes

STAGE OF DEVELOPMENT

$A = \frac{1}{\frac{1}{a_1} + \frac{1}{a_2} + \frac{1}{a_3}}$	
oktas predominant, oktas secondary	
AGE	AVERAGE THICKNESS
SS = Frazil, Grease, Slush, Shuga	
NL = Ice Rind, Dark Nilas, Light Nilas	<5-10 cm
G = Gray	10-15 cm
GW = Gray-White	15-30 cm
FL = Thin First-Year	30-70 cm
FM = Medium First-Year	70-120 cm
FT = Thick First-Year	>120 cm
SY = Second-Year	
MY = Multi-Year	
Example: $\frac{A}{5FM3G}$	
A = Stage of development	
5FM = 5 oktas Medium First-Year	
3G = 3 oktas Gray	
*One okta equals one-eighth ice concentration	

TOPOGRAPHY

	Rafted or Finger-Rafted Ice
	Hummocks
	Mow Ridges
	Weathered Ridges
	Very Weathered Ridges
	Aged Ridges
	Consolidated Ridges

Example: $\frac{\text{Wavy line with (N)}}{(n)}$

(h) height of ridges in meters
(n) tenths coverage on ice

STAGE OF MELTING

FPD	= Few Puddles
MPD	= Many Puddles
FTH	= Few Thaw Holes
MTH	= Many Thaw Holes
DRI	= Dried Ice
ROT	= Rotten Ice
FLO	= Flooded Ice







UNDERCAST

 Limit

THICKNESS OF ICE & SNOW

t_i = ice thickness in cm
 s = snow depth in cm

PHENOMENA

	crack
	fracture
	polynya
	lead
	icebergs
	bergy bits & growlers
(n) = number in area	

ICE EDGE





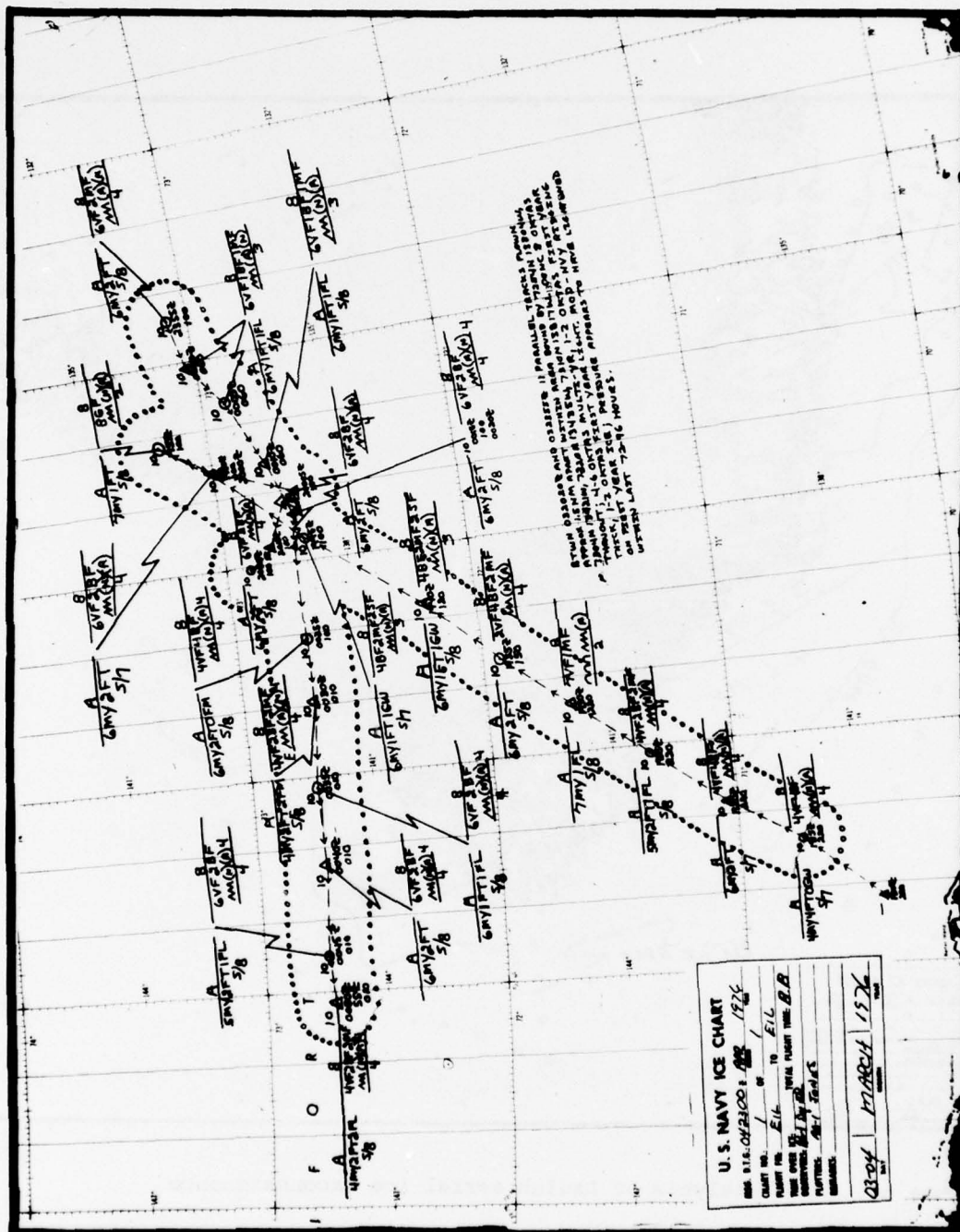
	observed
	radar
	limit of observed data
	satellite data

Figure 4. Partial ice code breakdown and key to ice symbols used in plotting ice features



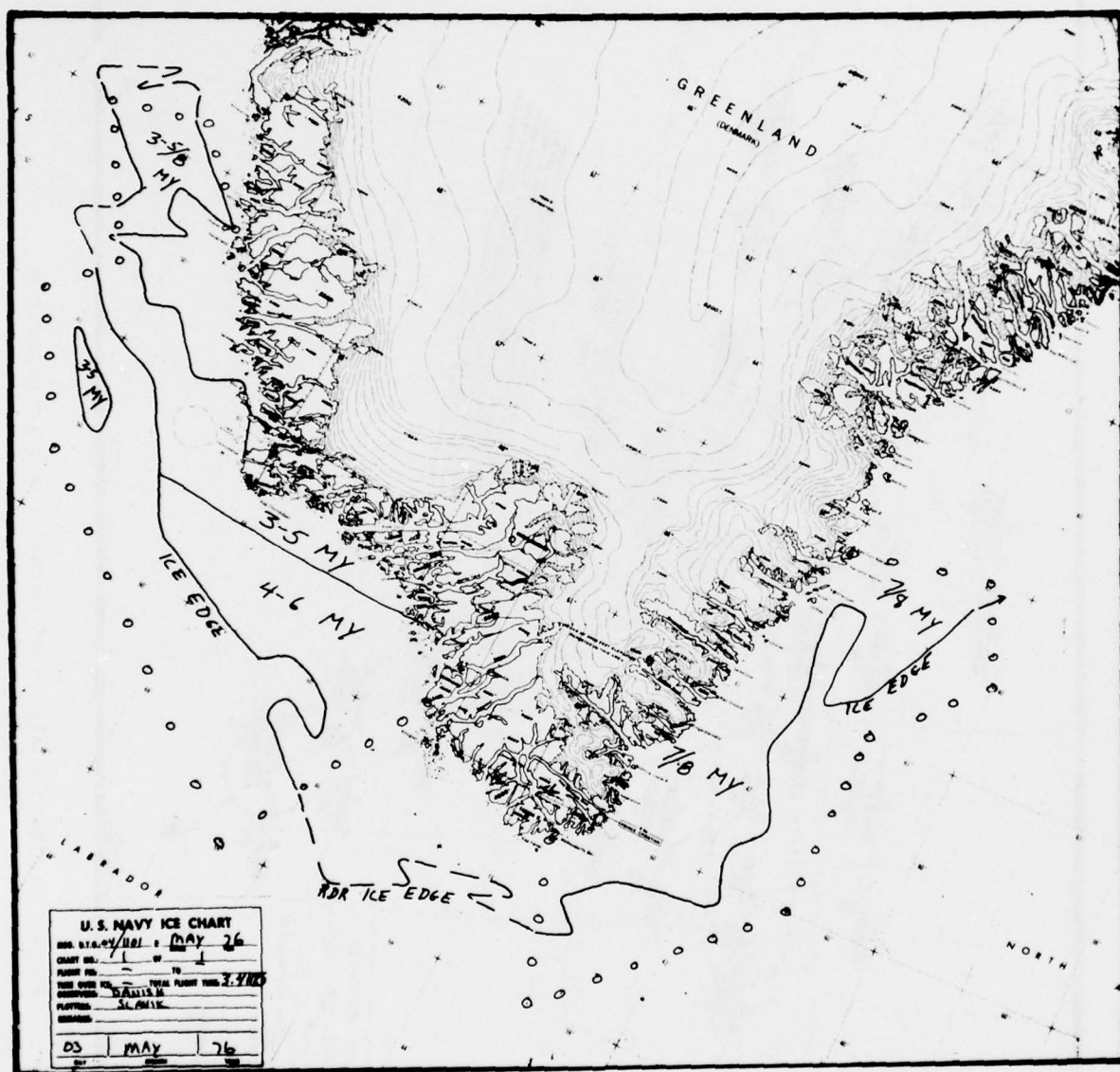


Figure 6. Chart analysis of Danish aerial ice reconnaissance

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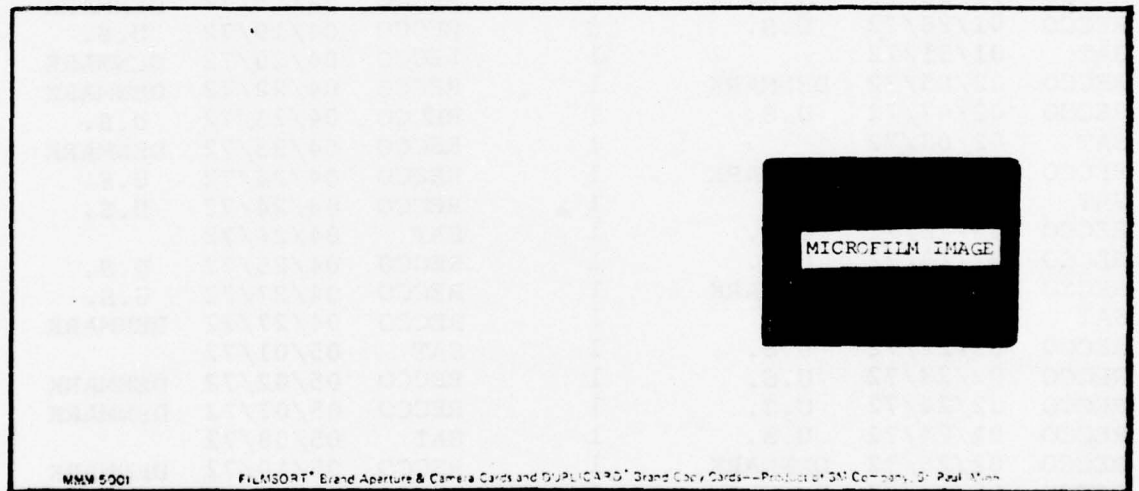


Figure 7. 35-mm aperture card

TABLE 1. MICROFILM, EASTERN ARCTIC

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	01/03/72		1	RECCO	03/30/72	DENMARK	2
RECCO	01/10/72	DENMARK	1	SAT	04/03/72		1
SAT	01/10/72		1	RECCO	04/04/72	DENMARK	1
RECCO	01/11/72	U.S.	1	RECCO	04/09/72	DENMARK	1
RECCO	01/12/72	U.S.	3	SAT	04/10/72		1
RECCO	01/14/72	DENMARK	1	RECCO	04/13/72	DENMARK	1
RECCO	01/17/72	DENMARK	1	RECCO	04/14/72	U.S.	1
SAT	01/17/72		1	RECCO	04/16/72	U.S.	2
RECCO	01/25/72	DENMARK	2	RECCO	04/16/72	U.S.	2
SAT	01/25/72		1	SAT	04/17/72		1
RECCO	01/26/72	U.S.	1	RECCO	04/18/72	DENMARK	1
RECCO	01/28/72	U.S.	6	RECCO	04/19/72	U.S.	1
SAT	01/31/72		1	RECCO	04/20/72	DENMARK	1
RECCO	02/05/72	DENMARK	1	RECCO	04/22/72	DENMARK	1
RECCO	02/07/72	U.S.	1	RECCO	04/23/72	U.S.	1
SAT	02/07/72		1	RECCO	04/23/72	DENMARK	1
RECCO	02/12/72	DENMARK	1	RECCO	04/24/72	U.S.	1
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RECCO	02/18/72	U.S.	1	SAT	04/24/72		1
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RECCO	02/22/72	U.S.	1	SAT	05/01/72		1
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RECCO	02/24/72	U.S.	1	RECCO	05/07/72	DENMARK	1
RECCO	02/24/72	U.S.	1	SAT	05/08/72		1
RECCO	02/26/72	DENMARK	1	RECCO	05/10/72	DENMARK	1
RECCO	02/28/72	DENMARK	2	RECCO	05/12/72	U.S.	2
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RECCO	03/10/72	U.S.	5	RECCO	05/16/72	U.S.	1
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SAT	03/20/72		1	RECCO	05/21/72	U.S.	1
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RECCO	03/27/72	U.S.	1	RECCO	05/24/72	DENMARK	2
SAT	03/27/72		1	RECCO	05/24/72	U.S.	1

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
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RECCO	06/02/72	U.S.	2	SAT	09/12/72		1
RECCO	06/02/72	DENMARK	1	SAT	09/19/72		1
SAT	06/05/72		1	RECCO	09/20/72	U.S.	1
RECCO	06/06/72	DENMARK	1	RECCO	09/21/72	U.S.	1
RECCO	06/06/72	U.S.	3	SAT	09/26/72		1
RECCO	06/07/72	U.S.	1	RECCO	09/27/72	U.S.	3
RECCO	06/07/72	DENMARK	1	RECCO	09/29/72	U.S.	2
RECCO	06/10/72	DENMARK	1	RECCO	10/02/72	U.S.	2
RECCO	06/12/72	U.S.	1	RECCO	10/03/72	U.S.	1
SAT	06/13/72		1	SAT	10/03/72		1
RECCO	06/14/72	U.S.	2	RECCO	10/04/72	U.S.	2
RECCO	06/15/72	U.S.	5	RECCO	10/06/72	U.S.	1
RECCO	06/17/72	U.S.	3	SAT	10/10/72		1
RECCO	06/17/72	DENMARK	1	RECCO	10/11/72	U.S.	3
RECCO	06/19/72	DENMARK	1	RECCO	10/13/72	U.S.	1
SAT	06/19/72		1	RECCO	10/17/72	U.S.	2
RECCO	06/20/72	U.S.	1	SAT	10/17/72		1
SAT	06/26/72		1	RECCO	10/19/72	U.S.	2
RECCO	06/28/72	DENMARK	1	RECCO	10/21/72	U.S.	4
RECCO	06/29/72	U.S.	2	SAT	10/24/72		1
RECCO	07/02/72	U.S.	1	RECCO	10/25/72	U.S.	1
SAT	07/03/72		1	RECCO	10/31/72	DENMARK	1
RECCO	07/04/72	U.S.	1	SAT	10/31/72		1
SAT	07/10/72		1	RECCO	11/01/72	U.S.	2
RECCO	07/17/72	U.S.	3	RECCO	11/01/72	U.S.	1
RECCO	07/17/72	DENMARK	1	RECCO	11/01/72	DENMARK	1
SAT	07/17/72		1	RECCO	11/02/72	U.S.	3
RECCO	07/18/72	U.S.	2	SAT	11/07/72		1
SAT	07/24/72		1	RECCO	11/08/72	U.S.	1
SAT	07/31/72		1	RECCO	11/12/72	U.S.	1
RECCO	08/02/72	U.S.	3	RECCO	11/13/72	DENMARK	1
RECCO	08/02/72	U.S.	1	RECCO	11/14/72	U.S.	1
RECCO	08/03/72	U.S.	2	SAT	11/14/72		1
SAT	08/07/72		1	RECCO	11/15/72	DENMARK	1
RECCO	08/13/72	DENMARK	1	RECCO	11/16/72	U.S.	1

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
RECCO	11/17/72	U.S.	1	RECCO	12/07/72	DENMARK	1
RECCO	11/21/72	U.S.	1	SAT	12/12/72		1
SAT	11/21/72		1	RECCO	12/13/72	U.S.	1
RECCO	11/28/72	DENMARK	1	RECCO	12/14/72	DENMARK	1
SAT	11/28/72		1	RECCO	12/14/72	U.S.	1
RECCO	11/29/72	U.S.	2	RECCO	12/18/72	DENMARK	1
RECCO	11/30/72	U.S.	2	SAT	12/19/72		1
RECCO	12/01/72	U.S.	1	RECCO	12/21/72	DENMARK	1
RECCO	12/05/72	U.S.	1	RECCO	12/21/72	U.S.	2
SAT	12/05/72		1	RECCO	12/23/72	DENMARK	1
RECCO	12/06/72	DENMARK	1	RECCO	12/24/72	DENMARK	1
RECCO	12/07/72	U.S.	1	SAT	12/26/72		1
SAT	01/02/73		1	RECCO	03/16/73	U.S.	2
RECCO	01/04/73	DENMARK	1	RECCO	03/17/73	U.S.	2
SAT	01/09/73		1	RECCO	03/19/73	U.S.	2
RECCO	01/10/73	U.S.	2	RECCO	03/20/73	U.S.	4
RECCO	01/11/73	U.S.	1	SAT	03/20/73		1
RECCO	01/14/73	U.S.	2	RECCO	03/21/73	U.S.	2
RECCO	01/15/73	U.S.	1	RECCO	03/26/73	U.S.	1
RECCO	01/16/73	DENMARK	1	RECCO	03/27/73	U.S.	1
SAT	01/16/73		1	SAT	03/27/73		1
RECCO	01/17/73	U.S.	2	RECCO	03/30/73	DENMARK	2
SAT	01/23/73		1	RECCO	04/01/73	DENMARK	1
RECCO	01/27/73	DENMARK	1	SAT	04/03/73		1
SAT	01/30/73		1	RECCO	04/05/73	DENMARK	1
RECCO	01/31/73	U.S.	2	RECCO	04/10/73	DENMARK	1
SAT	02/06/73		1	RECCO	04/10/73	U.S.	1
RECCO	02/12/73	DENMARK	1	SAT	04/10/73		1
SAT	02/13/73		1	RECCO	04/14/73	U.S.	3
SAT	02/20/73		1	RECCO	04/15/73	U.S.	2
RECCO	02/21/73	U.S.	1	RECCO	04/16/73	U.S.	4
RECCO	02/22/73	U.S.	2	RECCO	04/17/73	U.S.	1
RECCO	02/22/73	DENMARK	1	SAT	04/17/73		1
RECCO	02/23/73	U.S.	1	RECCO	04/19/73	U.S.	1
RECCO	02/23/73	DENMARK	1	RECCO	04/20/73	DENMARK	2
SAT	02/27/73		1	RECCO	04/20/73	U.S.	1
RECCO	02/28/73	DENMARK	1	RECCO	04/21/73	U.S.	1
RECCO	03/02/73	DENMARK	1	RECCO	04/23/73	U.S.	1
SAT	03/06/73		1	SAT	04/24/73		1
RECCO	03/13/73	DENMARK	1	RECCO	04/26/73	U.S.	4
SAT	03/13/73		1	RECCO	04/27/73	U.S.	2
RECCO	03/15/73	DENMARK	2	RECCO	04/30/73	DENMARK	2

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	05/01/73		1	RECCO	07/05/73	DENMARK	1
RECCO	05/02/73	DENMARK	1	RECCO	07/06/73	DENMARK	1
RECCO	05/08/73	DENMARK	1	SAT	07/10/73		1
SAT	05/08/73		1	RECCO	07/13/73	DENMARK	1
RECCO	05/13/73	DENMARK	1	RECCO	07/15/73	DENMARK	2
SAT	05/15/73		1	RECCO	07/16/73	U.S.	3
RECCO	05/16/73	DENMARK	2	SAT	07/17/73		1
RECCO	05/18/73	DENMARK	1	RECCO	07/18/73	U.S.	3
RECCO	05/18/73	U.S.	1	RECCO	07/20/73	U.S.	1
RECCO	05/22/73	U.S.	3	SAT	07/24/73		1
SAT	05/22/73		1	RECCO	07/28/73	DENMARK	1
RECCO	05/23/73	DENMARK	1	RECCO	07/28/73	U.S.	1
RECCO	05/24/73	U.S.	2	RECCO	07/28/73	DENMARK	1
RECCO	05/29/73	DENMARK	1	RECCO	07/28/73	U.S.	4
SAT	05/29/73		1	RECCO	07/28/73	U.S.	3
RECCO	06/01/73	DENMARK	1	SAT	07/31/73		1
RECCO	06/03/73	DENMARK	2	RECCO	08/01/73	U.S.	1
RECCO	06/04/73	DENMARK	3	RECCO	08/02/73	U.S.	2
RECCO	06/05/73	DENMARK	2	RECCO	08/02/73	DENMARK	2
SAT	06/05/73		1	RECCO	08/05/73	DENMARK	1
RECCO	06/06/73	U.S.	1	RECCO	08/05/73	U.S.	2
RECCO	06/06/73	DENMARK	1	RECCO	08/06/73	U.S.	2
RECCO	06/10/73	DENMARK	1	SAT	08/07/73		1
RECCO	06/12/73	DENMARK	1	RECCO	08/08/73	U.S.	2
SAT	06/12/73		1	RECCO	08/08/73	DENMARK	4
RECCO	06/13/73	U.S.	2	RECCO	08/12/73	U.S.	2
RECCO	06/13/73	U.S.	4	RECCO	08/13/73	U.S.	2
RECCO	06/14/73	U.S.	3	RECCO	08/13/73	DENMARK	1
RECCO	06/14/73	U.S.	2	SAT	08/14/73		1
RECCO	06/15/73	U.S.	3	RECCO	08/15/73	U.S.	2
SAT	06/19/73		1	RECCO	08/16/73	U.S.	4
RECCO	06/20/73	DENMARK	1	RECCO	08/21/73	DENMARK	1
RECCO	06/20/73	U.S.	1	RECCO	08/21/73	U.S.	1
RECCO	06/21/73	DENMARK	1	SAT	08/21/73	U.S.	1
RECCO	06/24/73	DENMARK	2	RECCO	08/22/73	U.S.	2
SAT	06/26/73		1	RECCO	08/23/73	U.S.	2
RECCO	06/27/73	DENMARK	1	RECCO	08/24/73	DENMARK	1
RECCO	06/27/73	U.S.	2	RECCO	08/25/73	U.S.	1
RECCO	06/28/73	U.S.	3	RECCO	08/26/73	U.S.	1
RECCO	06/28/73	DENMARK	1	SAT	08/28/73		1
RECCO	06/29/73	U.S.	1	RECCO	08/29/73	U.S.	3
SAT	07/03/73		1	RECCO	08/31/73	U.S.	2

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	09/04/73		1	RECCO	11/01/73	U.S.	1
RECCO	09/05/73	DENMARK	4	RECCO	11/02/73	DENMARK	2
SAT	09/11/73		1	SAT	11/06/73		1
SAT	09/18/73		1	RECCO	11/08/73	U.S.	2
RECCO	09/20/73	DENMARK	1	RECCO	11/10/73	DENMARK	3
SAT	09/25/73		1	RECCO	11/12/73	U.S.	4
RECCO	09/26/73	DENMARK	2	SAT	11/13/73		1
RECCO	10/01/73	DENMARK	2	RECCO	11/18/73	U.S.	3
SAT	10/02/73		1	RECCO	11/19/73	U.S.	2
RECCO	10/05/73	DENMARK	4	RECCO	11/20/73	U.S.	2
RECCO	10/08/73	DENMARK	1	SAT	11/20/73		1
SAT	10/09/73		1	RECCO	11/22/73	DENMARK	1
RECCO	10/11/73	U.S.	2	SAT	11/27/73		1
RECCO	10/12/73	DENMARK	1	RECCO	11/28/73	U.S.	1
RECCO	10/15/73	U.S.	3	SAT	12/04/73		1
RECCO	10/16/73	U.S.	2	RECCO	12/06/73	DENMARK	2
SAT	10/16/73		1	RECCO	12/07/73	U.S.	1
RECCO	10/17/73	U.S.	1	SAT	12/11/72		1
RECCO	10/18/73	U.S.	1	RECCO	12/13/73	U.S.	2
RECCO	10/20/73	DENMARK	1	RECCO	12/15/73	DENMARK	2
RECCO	10/21/73	U.S.	1	RECCO	12/16/73	U.S.	1
RECCO	10/22/73	DENMARK	1	SAT	12/18/73		1
SAT	10/23/73		1	RECCO	12/22/73	U.S.	3
RECCO	10/24/73	DENMARK	3	RECCO	12/22/73	DENMARK	2
RECCO	10/28/73	U.S.	3	SAT	12/24/73		1
RECCO	10/29/73	U.S.	1	RECCO	12/27/73	U.S.	1
SAT	10/30/73		1	RECCO	12/27/73	DENMARK	2
RECCO	10/31/73	DENMARK	1	SAT	12/31/73		1
RECCO	10/31/73	U.S.	4				
RECCO	01/04/74	DENMARK	3	SAT	01/22/74		1
SAT	01/08/74		1	RECCO	01/27/74	DENMARK	1
RECCO	01/09/74	U.S.	2	SAT	01/29/74		1
RECCO	01/11/74	DENMARK	1	SAT	02/05/74		1
RECCO	01/12/74	U.S.	1	RECCO	02/06/74	DENMARK	1
RECCO	01/14/74	U.S.	2	RECCO	02/10/74	DENMARK	2
SAT	01/15/74		1	SAT	02/12/74		1
RECCO	01/16/74	DENMARK	2	RECCO	02/18/74	U.S.	3
RECCO	01/18/74	DENMARK	1	RECCO	02/19/74	DENMARK	1
RECCO	01/18/74	U.S.	2	SAT	02/19/74		1
RECCO	01/20/74	DENMARK	1	RECCO	02/20/74	U.S.	4
RECCO	01/20/74	U.S.	2	RECCO	02/21/74	U.S.	2

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
RECCO	02/22/74	U.S.	1	RECCO	05/03/74	DENMARK	1
RECCO	02/25/74	U.S.	1	RECCO	05/04/74	DENMARK	1
SAT	02/26/74		1	SAT	05/07/74		1
RECCO	02/27/74	U.S.	1	RECCO	05/10/74	DENMARK	2
RECCO	02/28/74	U.S.	1	RECCO	05/11/74	U.S.	2
RECCO	02/28/74	DENMARK	1	RECCO	05/13/74	DENMARK	1
RECCO	03/01/74	U.S.	2	SAT	05/14/74		1
RECCO	03/03/74	U.S.	3	RECCO	05/15/74	U.S.	4
SAT	03/05/74		1	RECCO	05/15/74	DENMARK	1
RECCO	03/06/74	U.S.	2	RECCO	05/18/74	U.S.	2
RECCO	03/07/74	U.S.	2	RECCO	05/20/74	U.S.	4
RECCO	03/08/74	U.S.	2	SAT	05/21/74		1
RECCO	03/10/74	U.S.	4	RECCO	05/22/74	DENMARK	3
RECCO	03/11/74	U.S.	1	RECCO	05/26/74	DENMARK	1
RECCO	03/12/74	U.S.	3	RECCO	05/27/74	DENMARK	1
SAT	03/12/74		1	SAT	05/28/74		1
RECCO	03/14/74	DENMARK	1	RECCO	06/03/74	U.S.	4
RECCO	03/17/74	DENMARK	1	RECCO	06/04/74	DENMARK	1
SAT	03/19/74		1	RECCO	06/04/74	U.S.	5
RECCO	03/23/74	U.S.	1	SAT	06/04/74		1
RECCO	03/24/74	U.S.	3	RECCO	06/05/74	U.S.	2
RECCO	03/25/74	U.S.	1	RECCO	06/08/74	DENMARK	1
SAT	03/26/74		1	SAT	06/11/74		1
RECCO	03/27/74	U.S.	2	RECCO	06/18/74	DENMARK	2
RECCO	03/27/74	DENMARK	2	SAT	06/18/74		1
RECCO	04/02/74	DENMARK	1	RECCO	06/21/74	DENMARK	1
SAT	04/02/74		1	RECCO	06/22/74	DENMARK	1
RECCO	04/09/74	DENMARK	1	RECCO	06/24/74	U.S.	5
SAT	04/09/74		1	RECCO	06/25/74	DENMARK	1
RECCO	04/13/74	DENMARK	1	RECCO	06/25/74	U.S.	4
RECCO	04/15/74	U.S.	1	SAT	06/25/74		1
RECCO	04/16/74	U.S.	3	RECCO	06/26/74	DENMARK	1
RECCO	04/16/74	DENMARK	1	RECCO	06/26/74	U.S.	2
SAT	04/16/74		1	RECCO	06/29/74	DENMARK	1
RECCO	04/18/74	U.S.	4	SAT	07/02/74		1
RECCO	04/18/74	U.S.	6	RECCO	07/03/74	DENMARK	1
RECCO	04/19/74	DENMARK	1	RECCO	07/05/74	DENMARK	1
RECCO	04/20/74	U.S.	6	RECCO	07/08/74	DENMARK	2
RECCO	04/22/74	DENMARK	1	SAT	07/09/74		1
SAT	04/23/74		1	RECCO	07/10/74	DENMARK	2
SAT	04/30/74		1	RECCO	07/12/74	DENMARK	3
RECCO	05/01/74	DENMARK	1	SAT	07/16/74		1

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
RECCO	07/18/74	DENMARK	1	RECCO	10/24/74	DENMARK	3
RECCO	07/23/74	U.S.	1	SAT	10/29/74		1
SAT	07/23/74		1	RECCO	10/31/74		1
RECCO	07/24/74	U.S.	3	SAT	11/05/74		1
RECCO	07/25/74	U.S.	1	RECCO	11/06/74	DENMARK	1
SAT	07/30/74		1	RECCO	11/09/74	DENMARK	1
RECCO	08/01/74	U.S.	1	RECCO	11/11/74	U.S.	1
RECCO	08/01/74	DENMARK	1	SAT	11/12/74		1
RECCO	08/03/74	DENMARK	1	RECCO	11/15/74	DENMARK	1
SAT	08/06/74		1	SAT	11/19/74		1
RECCO	08/12/74	U.S.	2	RECCO	11/20/74	U.S.	1
RECCO	08/13/74	U.S.	2	RECCO	11/21/74	U.S.	2
SAT	08/13/74		1	RECCO	11/22/74	U.S.	2
SAT	08/20/74		1	RECCO	11/25/74	DENMARK	1
SAT	08/27/74		1	SAT	11/26/74		1
RECCO	08/28/74	U.S.	4	RECCO	11/28/74	DENMARK	1
SAT	09/03/74		1	RECCO	11/29/74	DENMARK	2
SAT	09/10/74		1	RECCO	12/03/74	DENMARK	1
SAT	09/17/74		1	SAT	12/03/74		1
SAT	09/24/74		1	RECCO	12/04/74	U.S.	1
SAT	10/01/74		1	RECCO	12/07/74	DENMARK	1
SAT	10/08/74		1	SAT	12/10/74		1
RECCO	10/15/74	DENMARK	1	RECCO	12/13/74	DENMARK	1
SAT	10/16/74		1	RECCO	12/14/74	DENMARK	1
RECCO	10/18/74	U.S.	1	RECCO	12/16/74	DENMARK	1
RECCO	10/19/74	U.S.	1	SAT	12/24/74		1
RECCO	10/20/74	U.S.	4	RECCO	12/27/74	DENMARK	1
SAT	10/22/74		1	SAT	12/31/74		1
RECCO	01/07/75	DENMARK	1	RECCO	01/23/75	U.S.	2
RECCO	01/07/75	DENMARK	1	RECCO	01/24/75	U.S.	1
SAT	01/07/75		1	RECCO	01/25/75	U.S.	3
RECCO	01/13/75	DENMARK	1	RECCO	01/28/75	DENMARK	1
SAT	01/14/75		1	SAT	01/28/75		1
RECCO	01/16/75	DENMARK	1	RECCO	02/01/75	DENMARK	1
RECCO	01/16/75	DENMARK	1	RECCO	02/02/75	DENMARK	1
RECCO	01/20/75	U.S.	1	RECCO	02/04/75	DENMARK	1
RECCO	01/20/75	DENMARK	1	SAT	02/04/75		1
SAT	01/21/75		1	RECCO	02/08/75	U.S.	1
RECCO	01/22/75	U.S.	1	RECCO	02/09/75	DENMARK	1
RECCO	01/23/75	DENMARK	1	RECCO	02/10/75	U.S.	2

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	02/11/75		1	RECCO	04/21/75	U.S.	2
RECCO	02/13/75	DENMARK	1	RECCO	04/22/75	DENMARK	1
RECCO	02/13/75	DENMARK	1	SAT	04/22/75		1
RECCO	02/14/75	U.S.	1	RECCO	04/23/75	U.S.	2
RECCO	02/14/75	DENMARK	1	RECCO	04/27/75	DENMARK	1
RECCO	02/18/75	U.S.	1	RECCO	04/28/75	U.S.	1
SAT	02/18/75		1	RECCO	04/29/75	DENMARK	1
RECCO	02/19/75	U.S.	1	SAT	04/29/75		1
RECCO	02/21/75	DENMARK	1	RECCO	05/01/75	DENMARK	1
SAT	02/25/75		1	RECCO	05/01/75	DENMARK	1
RECCO	02/26/75	DENMARK	1	RECCO	05/02/75	U.S.	3
RECCO	03/03/75	DENMARK	1	RECCO	05/03/75	DENMARK	1
SAT	03/04/75		1	RECCO	05/03/75	DENMARK	1
RECCO	03/05/75	U.S.	1	RECCO	05/04/75	U.S.	1
RECCO	03/06/75	U.S.	2	RECCO	05/04/75	DENMARK	1
RECCO	03/06/75	U.S.	2	RECCO	05/05/75	U.S.	1
SAT	03/11/75		1	RECCO	05/06/75	DENMARK	1
RECCO	03/12/75	U.S.	1	SAT	05/06/75		1
RECCO	03/18/75	U.S.	1	RECCO	05/07/75	U.S.	1
RECCO	03/18/75	U.S.	2	RECCO	05/09/75	U.S.	3
SAT	03/18/75		1	RECCO	05/10/75	U.S.	2
RECCO	03/19/75	DENMARK	1	RECCO	05/10/75	DENMARK	1
RECCO	03/20/75	U.S.	1	RECCO	05/10/75	U.S.	2
RECCO	03/20/75	U.S.	2	SAT	05/13/75		1
RECCO	03/22/75	DENMARK	1	RECCO	05/15/75	DENMARK	1
RECCO	03/23/75	DENMARK	1	RECCO	05/19/75	DENMARK	1
RECCO	03/23/75	DENMARK	1	RECCO	05/19/75	U.S.	2
RECCO	03/24/75	U.S.	1	SAT	05/20/75		1
SAT	03/25/75		1	RECCO	05/23/75	DENMARK	1
RECCO	03/26/75	DENMARK	1	RECCO	05/23/75	U.S.	2
RECCO	03/29/75	DENMARK	1	SAT	05/27/75		1
SAT	04/01/75		1	RECCO	05/30/75	DENMARK	1
RECCO	04/03/75	U.S.	1	RECCO	06/02/75	DENMARK	1
RECCO	04/03/75	U.S.	1	SAT	06/03/75		1
RECCO	04/05/75	DENMARK	1	RECCO	06/04/75	DENMARK	1
SAT	04/08/75		1	RECCO	06/06/75	DENMARK	1
RECCO	04/10/75	DENMARK	1	RECCO	06/09/75	DENMARK	1
RECCO	04/13/75	DENMARK	1	SAT	06/10/75		1
RECCO	04/14/75	DENMARK	1	RECCO	06/12/75	U.S.	1
SAT	04/15/75		1	RECCO	06/13/75	DENMARK	1
RECCO	04/18/75	DENMARK	1	RECCO	06/16/75	DENMARK	1
RECCO	04/21/75	U.S.	2	SAT	06/17/75		1

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
RECCO	06/24/75	U.S.	1	RECCO	08/20/75	U.S.	1
SAT	06/24/75		1	SAT	08/26/75		1
RECCO	06/25/75	DENMARK	2	RECCO	08/30/75	DENMARK	2
RECCO	06/25/75	U.S.	2	RECCO	08/31/75	DENMARK	1
RECCO	06/26/75	U.S.	2	SAT	09/02/75		1
RECCO	06/30/75	DENMARK	1	RECCO	09/03/75	DENMARK	2
RECCO	07/01/75	DENMARK	1	RECCO	09/04/75	U.S.	1
SAT	07/01/75		1	RECCO	09/09/75	DENMARK	1
RECCO	07/03/75	DENMARK	1	SAT	09/09/75		1
RECCO	07/08/75	DENMARK	1	RECCO	09/13/75	U.S.	1
SAT	07/08/75		1	SAT	09/16/75		1
RECCO	07/11/75	DENMARK	1	RECCO	09/23/75	DENMARK	1
RECCO	07/11/75	U.S.	1	SAT	09/23/75		1
RECCO	07/11/75	DENMARK	1	RECCO	09/29/75	DENMARK	1
RECCO	07/15/75	U.S.	2	SAT	09/30/75		1
SAT	07/15/75		1	RECCO	10/02/75	U.S.	1
RECCO	07/16/75	U.S.	1	SAT	10/07/75		1
RECCO	07/16/75	DENMARK	1	RECCO	10/09/75	DENMARK	1
RECCO	07/17/75	U.S.	2	RECCO	10/14/75	DENMARK	2
RECCO	07/17/75	DENMARK	1	RECCO	10/14/75	DENMARK	1
RECCO	07/22/75	DENMARK	1	SAT	10/14/75		1
SAT	07/22/75		1	RECCO	10/17/75	U.S.	1
RECCO	07/24/75	U.S.	1	RECCO	10/21/75	DENMARK	1
RECCO	07/24/75	DENMARK	2	SAT	10/21/75		1
RECCO	07/26/75	DENMARK	1	SAT	10/28/75		1
RECCO	07/28/75	U.S.	1	RECCO	10/29/75	DENMARK	1
RECCO	07/29/75	U.S.	1	RECCO	10/31/75	DENMARK	1
SAT	07/29/75		1	RECCO	11/03/75	U.S.	1
RECCO	07/30/75	DENMARK	1	SAT	11/04/75		1
RECCO	08/03/75	DENMARK	1	RECCO	11/08/75	DENMARK	1
RECCO	08/04/75	DENMARK	1	SAT	11/11/75		1
SAT	08/05/75		1	SAT	11/18/75		1
RECCO	08/07/75	DENMARK	1	RECCO	11/22/75	U.S.	1
RECCO	08/09/75	DENMARK	1	RECCO	11/23/75	DENMARK	1
RECCO	08/11/75	DENMARK	1	RECCO	11/25/75	DENMARK	1
RECCO	08/12/75	DENMARK	1	SAT	11/25/75		1
SAT	08/12/75		1	RECCO	11/26/75	DENMARK	1
RECCO	08/17/75	U.S.	1	RECCO	11/27/75	DENMARK	1
RECCO	08/17/75	DENMARK	1	RECCO	11/27/75	U.S.	2
RECCO	08/18/75	U.S.	2	RECCO	11/28/75	DENMARK	1
RECCO	08/18/75	DENMARK	1	RECCO	11/28/75	U.S.	1
SAT	08/19/75		1	RECCO	11/30/75	U.S.	2

TABLE 1. MICROFILM, EASTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
RECCO	12/01/75	U.S.	1	RECCO	12/16/75	DENMARK	1
SAT	12/02/75		1	SAT	12/16/75		1
RECCO	12/06/75	DENMARK	1	RECCO	12/22/75	DENMARK	1
RECCO	12/08/75	U.S.	1	RECCO	12/22/75	DENMARK	2
RECCO	12/09/75	DENMARK	1	SAT	12/23/75		1
RECCO	12/09/75	DENMARK	1	RECCO	12/26/75	U.S.	2
SAT	12/09/75		1	RECCO	12/27/75	DENMARK	1
RECCO	12/11/75	DENMARK	1	SAT	12/30/75		1
RECCO	12/16/75	DENMARK	1				

TABLE 2. MICROFILM, WESTERN ARCTIC

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	01/03/72		1	SAT	06/26/72		1
RECCO	01/10/72	U.S.	2	SAT	07/03/72		1
SAT	01/10/72		1	RECCO	07/04/72	U.S.	2
SAT	01/17/72		1	RECCO	07/06/72	U.S.	1
RECCO	01/19/72	U.S.	2	RECCO	07/08/72	U.S.	1
RECCO	01/20/72	U.S.	1	SAT	07/10/72		1
SAT	01/31/72		1	RECCO	07/13/72	U.S.	1
RECCO	02/03/72	U.S.	1	SAT	07/17/72		1
SAT	02/07/72		1	RECCO	07/19/72	U.S.	1
RECCO	02/14/72	U.S.	1	RECCO	07/20/72	U.S.	2
SAT	02/14/72		1	RECCO	07/24/72	U.S.	1
SAT	02/21/72		1	SAT	07/24/72		1
SAT	02/28/72		1	RECCO	07/30/72	U.S.	1
SAT	03/06/72		1	RECCO	07/30/72	U.S.	1
RECCO	03/12/72	U.S.	3	SAT	07/31/72		1
SAT	03/13/72		1	RECCO	08/02/72	U.S.	1
RECCO	03/18/72	U.S.	1	RECCO	08/03/72	U.S.	1
SAT	03/20/72		1	RECCO	08/04/72	U.S.	2
RECCO	03/24/72	U.S.	1	RECCO	08/05/72	U.S.	1
RECCO	03/27/72	U.S.	1	SAT	08/07/72		1
SAT	03/27/72		1	RECCO	08/08/72	U.S.	1
SAT	04/03/72		1	RECCO	08/10/72	U.S.	1
SAT	04/10/72		1	RECCO	08/12/72	U.S.	1
RECCO	04/13/72	U.S.	1	SAT	08/14/72		1
SAT	04/17/72		1	RECCO	08/16/72	U.S.	1
RECCO	04/18/72	U.S.	2	RECCO	08/18/72	U.S.	1
SAT	04/24/72		1	SAT	08/21/72		1
RECCO	04/25/72	U.S.	1	RECCO	08/22/72	U.S.	1
SAT	05/01/72		1	RECCO	08/27/72	U.S.	1
SAT	05/08/72		1	SAT	08/28/72		1
RECCO	05/13/72	U.S.	1	RECCO	09/02/72	U.S.	2
RECCO	05/15/72	U.S.	2	SAT	09/05/72		1
SAT	05/15/72		1	SAT	09/12/72		1
SAT	05/22/72		1	SAT	09/19/72		1
SAT	05/30/72		1	RECCO	09/21/72	U.S.	1
RECCO	06/03/72	U.S.	2	SAT	09/26/72		1
SAT	06/05/72		1	SAT	10/03/72		1
RECCO	06/12/72	U.S.	1	RECCO	10/05/72	U.S.	1
SAT	06/13/72		1	SAT	10/10/72		1
RECCO	06/14/72	U.S.	2	RECCO	10/16/72	U.S.	2
RECCO	06/16/72	U.S.	2	RECCO	10/17/72	U.S.	2
SAT	06/19/72		1	SAT	10/17/72		1

TABLE 2. MICROFILM, WESTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	10/24/72		1	SAT	11/28/72		1
RECCO	10/31/72	U.S.	2	RECCO	12/04/72	U.S.	2
SAT	10/31/72		1	SAT	12/05/72		1
SAT	11/07/72		1	SAT	12/12/72		1
SAT	11/14/72		1	SAT	12/19/72		1
RECCO	11/18/72	U.S.	3	SAT	12/26/72		1
SAT	11/21/72		1				
SAT	01/02/73		1	SAT	04/17/73		1
RECCO	01/05/73	U.S.	1	SAT	04/24/73		1
SAT	01/09/73		1	SAT	05/01/73		1
SAT	01/16/73		1	SAT	05/08/73		1
RECCO	01/18/73	U.S.	2	SAT	05/15/73		1
RECCO	01/21/73	U.S.	1	RECCO	05/19/73	U.S.	2
SAT	01/23/73		1	SAT	05/22/73		1
RECCO	01/24/73	U.S.	1	SAT	05/29/73		1
RECCO	01/26/73	U.S.	2	SAT	06/05/73		1
SAT	01/30/73		1	SAT	06/12/73		1
RECCO	02/01/73	U.S.	1	SAT	06/19/73		1
RECCO	02/04/73	U.S.	3	RECCO	06/20/73	U.S.	3
RECCO	02/05/73	U.S.	2	SAT	06/26/73		1
RECCO	02/06/73	U.S.	1	SAT	07/03/73		1
RECCO	02/06/73	U.S.	1	RECCO	07/06/73	U.S.	1
SAT	02/06/73		1	SAT	07/10/73		1
RECCO	02/09/73	U.S.	2	RECCO	07/16/73	U.S.	1
SAT	02/13/73		1	SAT	07/17/73		1
RECCO	02/14/73	U.S.	1	RECCO	07/18/73	U.S.	2
RECCO	02/20/73	U.S.	2	RECCO	07/19/73	U.S.	1
SAT	02/20/73		1	RECCO	07/23/73	U.S.	1
RECCO	02/26/73	U.S.	2	RECCO	07/23/73	U.S.	1
SAT	02/27/73		1	SAT	07/24/73		1
RECCO	02/28/73	U.S.	1	RECCO	07/26/73	U.S.	1
RECCO	03/05/73	U.S.	1	SAT	07/31/73		1
RECCO	03/06/73	U.S.	1	RECCO	08/04/73	U.S.	1
SAT	03/06/73		1	RECCO	08/04/73	U.S.	2
RECCO	03/10/73	U.S.	2	SAT	08/07/73		1
RECCO	03/11/73	U.S.	1	RECCO	08/11/73	U.S.	1
SAT	03/13/73		1	SAT	08/14/73		1
SAT	03/20/73		1	SAT	08/21/73		1
RECCO	03/22/73	U.S.	1	RECCO	08/23/73	U.S.	2
RECCO	03/25/73	U.S.	1	SAT	08/28/73		1
SAT	03/27/73		1	RECCO	09/01/73	U.S.	2
SAT	04/03/73		1	SAT	09/04/73		1
SAT	04/10/73		1	SAT	09/11/73		1

TABLE 2. MICROFILM, WESTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	09/18/73		1	RECCO	11/17/73	U.S.	2
SAT	09/25/73		1	RECCO	11/20/73	U.S.	1
SAT	10/02/73		1	SAT	11/20/73		1
RECCO	10/06/73	U.S.	2	RECCO	11/21/73	U.S.	1
SAT	10/09/73		1	SAT	11/27/73		1
SAT	10/16/73		1	RECCO	11/29/73	U.S.	1
RECCO	10/19/73	U.S.	3	RECCO	11/30/73	U.S.	1
SAT	10/23/73		1	RECCO	12/04/73	U.S.	1
SAT	10/30/73		1	SAT	12/04/73		1
SAT	11/06/73		1	RECCO	12/10/73		1
RECCO	11/07/73	U.S.	1	SAT	12/11/73		1
RECCO	11/09/73	U.S.	1	SAT	12/18/73		1
RECCO	11/13/73	U.S.	1	SAT	12/24/73		1
SAT	11/13/73		1	SAT	12/31/73		1
RECCO	11/15/73	U.S.	1				
SAT	01/08/74		1	RECCO	04/24/74	U.S.	1
RECCO	01/14/74	U.S.	1	RECCO	04/26/74	U.S.	1
SAT	01/15/74		1	SAT	04/30/74		1
RECCO	01/17/74	U.S.	1	RECCO	05/03/74	U.S.	2
SAT	01/22/74		1	SAT	05/07/74		1
RECCO	01/28/74	U.S.	3	RECCO	05/14/74	U.S.	1
SAT	01/29/74		1	SAT	05/14/74		1
SAT	02/05/74		1	SAT	05/21/74		1
SAT	02/12/74		1	SAT	05/28/74		1
SAT	02/19/74		1	RECCO	05/29/74	U.S.	1
SAT	02/26/74		1	RECCO	05/31/74	U.S.	2
RECCO	02/27/74	U.S.	2	SAT	06/04/74		1
SAT	03/05/74		1	SAT	06/11/74		1
SAT	03/12/74		1	SAT	06/18/74		1
SAT	03/19/74		1	SAT	06/25/74		1
RECCO	03/22/74	U.S.	1	SAT	07/02/74		1
RECCO	03/26/74	U.S.	1	RECCO	07/03/74	U.S.	2
SAT	03/26/74		1	SAT	07/09/74		1
RECCO	03/31/74	U.S.	2	RECCO	07/12/74	U.S.	1
SAT	04/02/74		1	SAT	07/16/74		1
SAT	04/09/74		1	RECCO	07/17/74	U.S.	1
SAT	04/16/74		1	RECCO	07/17/74	U.S.	2
RECCO	04/22/74	U.S.	2	RECCO	07/22/74	U.S.	1
SAT	04/23/74		1	SAT	07/23/74		1
				RECCO	07/26/74	U.S.	1

TABLE 2. MICROFILM, WESTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
RECCO	07/28/74	U.S.	1	RECCO	10/14/74	U.S.	1
RECCO	07/30/74	U.S.	1	SAT	10/16/74		1
SAT	07/30/74		1	RECCO	10/17/74	U.S.	2
RECCO	08/01/74	U.S.	1	SAT	10/22/74		1
RECCO	08/02/74	U.S.	1	SAT	10/29/74		1
RECCO	08/05/74	U.S.	1	SAT	11/05/74		1
RECCO	08/06/74	U.S.	1	SAT	11/12/74		1
SAT	08/06/74		1	RECCO	11/14/74	U.S.	1
SAT	08/13/74		1	SAT	11/19/74		1
RECCO	08/15/74	U.S.	1	SAT	11/26/74		1
SAT	08/20/74		1	RECCO	11/29/74	U.S.	2
RECCO	08/26/74	U.S.	1	RECCO	12/01/74	U.S.	1
SAT	08/27/74		1	SAT	12/03/74		1
RECCO	08/28/74	U.S.	3	RECCO	12/06/74	U.S.	1
SAT	09/03/74		1	SAT	12/10/74		1
SAT	09/10/74		1	RECCO	12/11/74	U.S.	1
RECCO	09/11/74	U.S.	2	RECCO	12/13/74	U.S.	2
SAT	09/17/74		1	RECCO	12/15/74	U.S.	2
SAT	09/24/74		1	SAT	12/17/74		1
SAT	10/01/74		1	SAT	12/24/74		1
SAT	10/08/74		1	SAT	12/31/74		1
RECCO	01/03/75	U.S.	1	SAT	05/06/75		1
SAT	01/07/75		1	SAT	05/13/75		1
SAT	01/14/75		1	SAT	05/20/75		1
SAT	01/21/75		1	SAT	05/27/75		1
SAT	01/28/75		1	SAT	06/03/75		1
SAT	02/04/75		1	SAT	06/10/75		1
RECCO	02/06/75	U.S.	1	SAT	06/17/75		1
SAT	02/11/75		1	SAT	06/24/75		1
SAT	02/18/75		1	RECCO	06/30/75	U.S.	3
SAT	02/25/75		1	SAT	07/01/75		1
RECCO	02/28/75	U.S.	2	SAT	07/08/75		1
SAT	03/04/75		1	RECCO	07/11/75	U.S.	2
SAT	03/11/75		1	SAT	07/15/75		1
RECCO	03/14/75	U.S.	1	SAT	07/22/75		1
SAT	03/18/75		1	RECCO	07/26/75	U.S.	2
SAT	03/25/75		1	SAT	07/29/75		1
SAT	04/01/75		1	SAT	08/05/75		1
SAT	04/08/75		1	RECCO	08/06/75	U.S.	1
SAT	04/15/75		1	RECCO	08/06/75	U.S.	1
SAT	04/22/75		1	RECCO	08/09/75	U.S.	1
SAT	04/29/75		1	RECCO	08/10/75	U.S.	1

TABLE 2. MICROFILM, WESTERN ARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
RECCO	08/12/75	U.S.	1	RECCO	09/14/75	U.S.	1
SAT	08/12/75		1	SAT	09/16/75		1
RECCO	08/13/75	U.S.	2	RECCO	09/17/75	U.S.	1
RECCO	08/16/75	U.S.	1	RECCO	09/18/75	U.S.	1
RECCO	08/17/75	U.S.	1	RECCO	09/20/75	U.S.	1
SAT	08/19/75		1	RECCO	09/21/75	U.S.	1
RECCO	08/23/75	U.S.	1	RECCO	09/22/75	U.S.	2
RECCO	08/23/75	U.S.	1	SAT	09/23/75		1
RECCO	08/24/75	U.S.	1	RECCO	09/24/75	U.S.	1
RECCO	08/25/75	U.S.	1	RECCO	09/25/75	U.S.	1
RECCO	08/25/75	U.S.	1	RECCO	09/26/75	U.S.	1
SAT	08/26/75		1	SAT	09/30/75		1
RECCO	08/27/75	U.S.	1	SAT	10/07/75		1
RECCO	08/28/75	U.S.	1	RECCO	10/08/75	U.S.	1
RECCO	08/28/75	U.S.	1	RECCO	10/14/75	U.S.	1
RECCO	09/01/75	U.S.	1	SAT	10/14/75		1
SAT	09/02/75		1	SAT	10/21/75		1
RECCO	09/03/75	U.S.	1	SAT	10/28/75		1
RECCO	09/04/75	U.S.	1	SAT	11/04/75		1
RECCO	09/05/75	U.S.	1	SAT	11/11/75		1
RECCO	09/06/75	U.S.	2	SAT	11/18/75		1
RECCO	09/08/75	U.S.	1	SAT	11/25/75		1
RECCO	09/09/75	U.S.	1	SAT	12/02/75		1
SAT	09/09/75		1	SAT	12/09/75		1
RECCO	09/10/75	U.S.	1	SAT	12/16/75		1
RECCO	09/11/75	U.S.	1	SAT	12/23/75		1
RECCO	09/12/75	U.S.	1	SAT	12/30/75		1

TABLE 3. MICROFILM, ANTARCTIC

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
RECCO	11/21/70	U.S.	2	RECCO	12/21/70	U.S.	1
RECCO	11/21/70	U.S.	1	RECCO	12/24/70	U.S.	1
RECCO	11/24/70	U.S.	2	RECCO	12/24/70	U.S.	1
RECCO	11/25/70	U.S.	2	RECCO	12/27/70	U.S.	1
RECCO	12/13/70	U.S.	2	RECCO	12/27/70	U.S.	1
RECCO	12/13/70	U.S.	2	RECCO	12/27/70	U.S.	1
RECCO	12/14/70	U.S.	2	RECCO	12/27/70	U.S.	1
RECCO	12/19/70	U.S.	2	RECCO	12/28/70	U.S.	1
RECCO	12/19/70	U.S.	2	RECCO	12/28/70	U.S.	1
RECCO	12/19/70	U.S.	2				
SAT	10/26/71		1	RECCO	11/25/71	U.S.	2
RECCO	10/30/71	U.S.	1	SAT	11/30/71		1
SAT	11/02/71		1	RECCO	12/01/71	U.S.	1
SAT	11/09/71		1	SAT	12/07/71		1
RECCO	11/12/71	U.S.	1	RECCO	12/14/71	U.S.	1
RECCO	11/14/71	U.S.	1	RECCO	12/17/71	U.S.	1
SAT	11/16/71		1	RECCO	12/19/71	U.S.	1
RECCO	11/18/71	U.S.	2	SAT	12/28/71		1
SAT	11/23/71		1	RECCO	12/29/71	U.S.	1
SAT	01/04/72		1	RECCO	11/21/72	U.S.	2
RECCO	01/06/72	U.S.	1	RECCO	11/23/72	U.S.	1
SAT	01/18/72		1	RECCO	11/24/72	U.S.	1
RECCO	01/24/72	U.S.	1	RECCO	11/24/72	U.S.	3
SAT	02/01/72		1	RECCO	11/26/72	U.S.	2
SAT	02/08/72		1	RECCO	11/29/72	U.S.	2
RECCO	09/09/72	U.S.	1	RECCO	12/01/72	U.S.	3
RECCO	10/09/72	U.S.	1	SAT	12/01/72		1
SAT	10/12/72		1	RECCO	12/02/72	U.S.	2
RECCO	10/24/72	U.S.	1	RECCO	12/05/72	U.S.	2
RECCO	10/31/72	U.S.	3	RECCO	12/08/72	U.S.	2
RECCO	11/02/72	U.S.	1	SAT	12/08/72		1
RECCO	11/04/72	U.S.	1	RECCO	12/13/72	U.S.	2
RECCO	11/10/72	U.S.	2	SAT	12/15/72		1
RECCO	11/13/72	U.S.	1	SAT	12/22/72		1
RECCO	11/20/72	U.S.	1	SAT	12/29/72		1

TABLE 3. MICROFILM, ANTARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	01/04/73		1	SAT	08/30/73		1
SAT	01/11/73		1	SAT	09/06/73		1
SAT	01/18/73		1	SAT	09/13/73		1
SAT	01/25/73		1	SAT	09/20/73		1
SAT	02/01/73		1	SAT	09/27/73		1
SAT	02/09/73		1	SAT	10/04/73		1
SAT	02/15/73		1	SAT	10/11/73		1
SAT	02/22/73		1	SAT	10/18/73		1
SAT	03/01/73		1	RECCO	10/25/73	U.S.	3
SAT	03/15/73		1	SAT	10/25/73		1
SAT	03/22/73		1	RECCO	10/31/73	U.S.	3
SAT	03/29/73		1	RECCO	10/31/73	U.S.	1
SAT	04/05/73		1	SAT	11/01/73		1
SAT	04/12/73		1	RECCO	11/02/73	U.S.	2
SAT	04/19/73		1	RECCO	11/05/73	U.S.	3
SAT	04/26/73		1	RECCO	11/06/73	U.S.	2
SAT	05/03/73		1	SAT	11/08/73		1
SAT	05/10/73		1	RECCO	11/10/73	U.S.	3
SAT	05/17/73		1	RECCO	11/11/73	U.S.	4
SAT	05/24/73		1	SAT	11/15/73		1
SAT	05/31/73		1	SAT	11/22/73		1
SAT	06/07/73		1	RECCO	11/24/73	U.S.	3
SAT	06/14/73		1	SAT	11/29/73		1
SAT	06/21/73		1	RECCO	12/01/73	U.S.	2
SAT	06/28/73		1	RECCO	12/03/73	U.S.	3
SAT	07/05/73		1	RECCO	12/05/73	U.S.	2
SAT	07/12/73		1	SAT	12/06/73		1
SAT	07/19/73		1	RECCO	12/10/73	U.S.	2
SAT	07/26/73		1	SAT	12/13/73		1
SAT	08/02/73		1	SAT	12/19/73		1
SAT	08/09/73		1	SAT	12/27/73		1
SAT	08/16/73		1	RECCO	12/30/73	U.S.	1
SAT	08/23/73		1				
SAT	01/03/74		1	SAT	03/07/74		1
SAT	01/10/74		1	SAT	03/14/74		1
SAT	01/17/74		1	SAT	03/21/74		1
SAT	01/24/74		1	SAT	03/28/74		1
SAT	01/31/74		1	SAT	04/04/74		1
SAT	02/07/74		1	SAT	04/11/74		1
SAT	02/14/74		1	SAT	04/18/74		1
SAT	02/21/74		1	SAT	04/25/74		1
SAT	02/28/74		1	SAT	05/02/74		1

TABLE 3. MICROFILM, ANTARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	05/09/74		1	SAT	10/03/74		1
SAT	05/16/74		1	SAT	10/10/74		1
SAT	05/23/74		1	SAT	10/17/74		1
SAT	05/30/74		1	SAT	10/24/74		1
SAT	06/06/74		1	RECCO	10/25/74	U.S.	2
SAT	06/13/74		1	RECCO	10/27/74	U.S.	2
SAT	06/20/74		1	RECCO	10/29/74	U.S.	2
SAT	06/27/74		1	SAT	10/31/74		1
SAT	07/04/74		1	SAT	11/07/74		1
SAT	07/11/74		1	RECCO	11/09/74	U.S.	1
SAT	07/18/74		1	RECCO	11/11/74	U.S.	1
SAT	07/25/74		1	RECCO	11/13/74	U.S.	2
SAT	08/01/74		1	SAT	11/14/74		1
SAT	08/08/74		1	RECCO	11/15/74	U.S.	1
SAT	08/15/74		1	SAT	11/29/74		1
SAT	08/22/74		1	SAT	12/05/74		1
SAT	08/29/74		1	SAT	12/12/74		1
SAT	09/05/74		1	RECCO	12/15/74	U.S.	1
SAT	09/12/74		1	RECCO	12/17/74	U.S.	2
SAT	09/19/74		1	SAT	12/19/74		1
SAT	09/26/74		1	SAT	12/26/74		1
SAT	01/02/75		1	SAT	05/08/75		1
SAT	01/09/75		1	SAT	05/15/75		1
SAT	01/16/75		1	SAT	05/22/75		1
SAT	01/23/75		1	SAT	05/29/75		1
SAT	01/30/75		1	SAT	06/05/75		1
SAT	02/06/75		1	SAT	06/12/75		1
SAT	02/13/75		1	SAT	06/19/75		1
SAT	02/20/75		1	SAT	06/26/75		1
SAT	02/27/75		1	SAT	07/03/75		1
SAT	03/06/75		1	SAT	07/10/75		1
SAT	03/13/75		1	SAT	07/17/75		1
SAT	03/20/75		1	SAT	07/24/75		1
SAT	03/27/75		1	SAT	07/31/75		1
SAT	04/03/75		1	SAT	08/07/75		1
SAT	04/10/75		1	SAT	07/14/75		1
SAT	04/17/75		1	SAT	08/21/75		1
SAT	04/24/75		1	SAT	08/28/75		1
SAT	05/01/75		1	SAT	09/04/75		1

TABLE 3. MICROFILM, ANTARCTIC (CON.)

<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>	<u>TYPE</u>	<u>DATE</u>	<u>OBSERVING NATION</u>	<u>NO. OF IMAGES</u>
SAT	09/11/75		1	SAT	11/13/75		1
SAT	09/18/75		1	SAT	11/20/75		1
SAT	09/25/75		1	SAT	11/26/75		1
SAT	10/02/75		1	SAT	12/04/75		1
SAT	10/09/75		1	SAT	12/11/75		1
SAT	10/16/75		1	SAT	12/18/75		1
SAT	10/23/75		1	SAT	12/24/75		1
SAT	10/30/75		1	SAT	12/31/75		1
SAT	11/06/75		1				

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